

WHAT IS CLAIMED IS:

1 1. In a computer system, a method of generating pronunciations for a
2 word that is represented by a waveform and text, such that the pronunciations are spelled by
3 phones in a phonetic alphabet for storage in a pronunciation dictionary, the method
4 comprising:

- 5 a. graphing sets of initial pronunciations; thereafter
6 b. in an ASR subsystem determining a highest-scoring set of initial
7 pronunciations;
8 c. generating sets of alternate pronunciations, wherein each set of alternate
9 pronunciations includes the highest-scoring set of initial pronunciations with a lowest-
10 probability phone of the highest-scoring initial pronunciation substituted with a unique-
11 substitute phone;
12 d. graphing the sets of alternate pronunciations;
13 e. determining in the ASR subsystem a highest-scoring set of alternate
14 pronunciations; and
15 f. adding to a pronunciation dictionary the highest-scoring set of alternate
16 pronunciations.

1 2. The method of claim 1, wherein step a. includes weighting the sets of
2 initial pronunciations with linguistic probabilities.

1 3. The method of claim 2, wherein linguistic probabilities are calculated
2 according to a transformation probability $P(B_i|A)$, wherein B_i and A represent respective
3 sequence of phones for respective sets of pronunciations.

1 4. The method of claim 1, wherein step d. includes weighting the sets of
2 alternate pronunciations with linguistic probabilities.

1 5. The method of claim 4, wherein linguistic probabilities are calculated
2 according to a transformation probability $P(B_i|A)$, wherein B_i and A represent respective
3 sequence of phones for respective sets of pronunciations.

1 6. The method of claim 1 further comprising in the ASR subsystem
2 traversing branches of graphs of the sets of initial and alternate pronunciations to generate
3 scores for the sets of initial and alternate pronunciations.

1 7. The method of claim 1 further comprising in the ASR subsystem
2 generating transcriptions of acoustic data spoken by a plurality of speakers, wherein the
3 transcriptions are included in the transcribed acoustic data.

1 8. The method of claim 7 further comprising in the ASR subsystem
2 collecting feedback from the plurality of speakers to affirm or disaffirm correct generation of
3 the transcriptions, wherein if the transcriptions are affirmed as correct then the transcriptions
4 are entered in the transcribed acoustic data.

1 9. The method of claim 1 further comprising
2 g. generating a phone probability for each phone in the highest-scoring set of
3 initial pronunciations, wherein the lowest-probability phone has a lowest-phone probability.

1 10. The method of claim 1, further comprising:
2 g. generating the sets of initial pronunciations from initial pronunciations
3 generated by a letter-to-phone engine and/or extracted from the pronunciation dictionary.

1 11. The method of claim 1, wherein steps a., b., c., d., e., and f. are
2 repeated for each waveform of a plurality of waveforms that represent the word.

1 12. The method of claim 1, wherein steps c., d., and e. are repeated using
2 the highest-scoring set of alternate pronunciations as the highest-scoring set of initial
3 pronunciations.

1 13. The method of claim 1, wherein the sets of alternate pronunciations
2 include a set of alternate pronunciations that include the highest-scoring initial pronunciation
3 with the lowest-probability phone removed.

1 14. The method of claim 1, wherein the sets of alternate pronunciations
2 include additional sets of alternate pronunciations that include the highest-scoring initial
3 pronunciation having a unique phone inserted adjacent to the lowest-probability phone.

1 15. The method of claim 1, wherein the sets of alternate pronunciations
2 include additional sets of alternate pronunciations that include the highest-scoring initial
3 pronunciation having a sequence of two phones substituted for the lowest-probability phone.

1 16. The method of claim 1, wherein the sets of alternate pronunciations
2 include additional sets of alternate pronunciations that include the highest-scoring initial
3 pronunciation having the lowest-probability phone and a right neighboring phone substituted
4 with a unique phone.

1 17. The method of claim 1, wherein the sets of alternate pronunciations
2 include additional sets of alternate pronunciations that include the highest-scoring initial
3 pronunciation with the lowest-probability phone and a left neighboring phone substituted
4 with a unique phone.

1 18. The method of claim 1, further comprising:
2 g. adding the highest-scoring set of initial pronunciations to the pronunciation
3 dictionary.

1 19. In a computer system, a method of generating pronunciations for a
2 word that is represented by a waveform and text, such that the pronunciations are spelled by
3 phones in a phonetic alphabet for storage in a pronunciation dictionary, the method
4 comprising:

5 a. graphing sets of initial pronunciations; thereafter

6 b. in an ASR subsystem determining a highest-scoring set of initial
7 pronunciations;

8 c. generating a set of alternate pronunciations that includes the highest-scoring
9 set of initial pronunciations with a lowest-probability phone of the highest-scoring initial
10 pronunciation substituted with a unique-substitute phone; and

11 d. adding to a pronunciation dictionary the set of alternate pronunciations and
12 the highest-scoring set of initial pronunciations.

1 20. The method of claim 19, wherein step a. includes weighting the sets of
2 initial pronunciations with linguistic probabilities.

1 21. The method of claim 20, wherein linguistic probabilities are calculated
2 according to a transformation probability $P(B_i|A)$, wherein B_i and A represent respective
3 sequence of phones for respective sets of pronunciations.

1 22. The method of claim 19 further comprising in the ASR subsystem
2 traversing branches of the graph to generate scores for the sets of initial pronunciations.

1 23. The method of claim 19 further comprising in the ASR subsystem
2 generating transcriptions of acoustic data spoken by a plurality of speakers, wherein the
3 transcriptions are included in the transcribed acoustic data.

1 24. The method of claim 23 further comprising in the ASR subsystem
2 collecting feedback from the plurality of speakers to affirm or disaffirm correct generation of
3 the transcriptions, wherein if the transcriptions are affirmed as correct then the transcriptions
4 are entered in the transcribed acoustic data.

1 25. The method of claim 19 further comprising
2 e. generating a phone probability for each phone in the highest-scoring set of
3 initial pronunciations, wherein the lowest-probability phone has a lowest-phone probability.

1 26. The method of claim 19 further comprising:
2 e. generating the sets of initial pronunciations from initial pronunciations
3 generated by a letter-to-phone engine and/or extracted from the pronunciation dictionary.

1 27. The method of claim 19, wherein steps a., b., c., and d. are repeated for
2 each waveform of a plurality of waveforms that represent the word.

1 28. The method of claim 19, wherein step c. is repeated using the set of
2 alternate pronunciations as the highest-scoring set of initial pronunciations.